MERCY CORPS

TECHNOLOGY FOR IMPACT

Partnership Impact Report

AUGUST 2017–JANUARY 2023

The map below shows countries that are or have been home to Technology for Impact initiatives and/or Cisco Meraki networks installed as part of our partnership.

■ TECHNOLOGY FOR IMPACT
■ MERAKI NETWORK
■ BOTH

BULGARIA
GREECE
HUNGARY
ITALY
KYRGYZSTAN
POLAND
ROMANIA
SERBIA
TAJIKISTAN
UZBEKISTAN
UKRAINE

INDONESIA
MONGOLIA
MYANMAR
NEPAL
TIMOR-LESTE

COLOMBIA
EL SALVADOR
GUATEMALA
HAITI
HONDURAS
MEXICO
UNITED STATES

BURKINA FASO
CENTRAL AFRICAN REPUBLIC
DEMOCRATIC REPUBLIC OF THE CONGO
ETHIOPIA
KENYA
LIBERIA
MALI
MAURITANIA
NIGER
NIGERIA
SUDAN
SOUTH SUDAN
UGANDA

AFGHANISTAN
GEORGIA
IRAQ
JORDAN
LEBANON
LIBYA
PAKISTAN
PALESTINE
SOMALIA
SYRIA
YEMEN
ZIMBABWE

2017 to 2023

WHO WE ARE

Mercy Corps' Technology for Development team (T4D) collaborates with field teams and external partners to unlock new possibilities and reach more people through the power of technology.

OUR VISION

A world of digital inclusion and opportunity where the ethical use of technology empowers secure, productive and just communities.

TECHNOLOGY FOR IMPACT INITIATIVES

The Technology for Impact partnership is a 5-year collaboration between Mercy Corps' T4D team and Cisco. Cisco has supported seven specific technology initiatives with $8.5 million in funding, nearly $3.4 million in product and technical expertise, and an additional $3 million for tech-based COVID response. Cisco employees have also supported Mercy Corps with nearly $875,000 in employee giving.

COMMUNICATION SECURITY & DATA PROTECTION AND PRIVACY
(mainstreamed into IT activities)
Exploring potential security gaps in Mercy Corps' current communications and data protection models, tools, policies and procedures so we can enhance security and ensure regulatory compliance.

DATA-DRIVEN DECISION MAKING AND ANALYTICS
Integrating multiple data sources into program management and crisis analytics tools to generate more relevant, timely information and help Mercy Corps teams make more precise, effective decisions.

DIGITAL CASH AND VOUCHER ASSISTANCE
(formerly Beneficiary Identity and Information Management)
Bringing complementary technology components, capacity and procurement/inventory processes into a single ecosystem to enable faster, better beneficiary registration and information management systems, with a focus on digital cash and voucher assistance.

DIGITAL COMMUNITIES
Providing reliable, actionable information to communities through a safe, accessible digital ecosystem to help them engage more equitably with community power holders, plan for their futures and respond to changes in their environment.

FIELD TECHNOLOGY TESTING PROGRAM
Funding trials of new and emerging technologies to expand Mercy Corps' capabilities and develop innovative solutions to advance humanitarian aid and development around the world.

SOLUTION DISSEMINATION AND REPLICATION
Building awareness of technology solutions and replicating them internally and externally to sustainably scale Technology for Impact initiatives.

FIELD NETWORKING INFRASTRUCTURE
Deploying the latest, most secure connectivity hardware across our offices and field locations to enable centralized equipment management, reduce costs and ensure faster, more secure communications.

Tjada D'Oyen McKenna
Chief Executive Officer,
Mercy Corps

"We have seen T4D's influence extend across Mercy Corps teams, integrating tech solutions into all of our program priority areas, and centering technology and innovation as an organizational commitment. The impact of our partnership has been transformational, reaching over 13 million people in 45 countries with digital solutions."

13,869,650
total participants have benefited from programming supported by Tech for Impact.

116
Mercy Corps programs are supported with Tech for Impact activities.

45
countries have programs supported by Tech for Impact.

TECHNOLOGY FOR DEVELOPMENT
CISCO PARTNERSHIP IN THE Pathway to Possibility

Outcome Themes

FOOD SECURITY

Digital Communities
We use tools like interactive text and voice response to share nutrition and behavior-change messaging.

PEACE AND GOOD GOVERNANCE

Digital Peacebuilding
We harness the transformative power of social media to proactively build and promote peace.

ECONOMIC OPPORTUNITY

Digital Cash and Voucher Assistance
We support digital payments to help people respond to crisis and adapt to a changing climate while supporting local economies.

WATER SECURITY

Field Technology Testing
We build on water quality and weather forecasting pilots to scale water security programs.

Commitments

CLIMATE SMART

New Partnership
We continue to partner with Cisco on the ASAL program in Kenya and the Climate Venture Platform, both of which drive increased use of technology in the climate adaptation space.

EVIDENCE DRIVEN

Data-driven Decision Making
We support the digitization of monitoring and evaluation practices with consolidated platforms and training to save time and generate real-time program insights.

INNOVATIVE AND CREATIVE

Field Technology Testing
We pilot new technologies and new applications of existing technologies that have the potential to scale.

LOCALLY LED

Digital Communities
We provide technical support to local information actors, combining our best practices with their on-the-ground expertise.

SAFE, DIVERSE AND INCLUSIVE

All T4D Activities
Tech programs start with a digital ecosystem assessment and a needs assessment to inform inclusion considerations from the outset.

In 2017, Mercy Corps and Cisco set out to do something big! Leveraging the best of Cisco's people, products and philanthropy and Mercy Corps' deep expertise in the humanitarian sector, we centered a five-year partnership around the shared goal of using technology to deliver aid and development assistance faster, better and to more people. Since then, our Technology for Development (T4D) team has grown from two people to 12. And more important, we have seen T4D's influence extend across Mercy Corps teams, integrating tech solutions into all of our program priority areas, and centering technology and innovation as an organizational commitment. The impact of our partnership has been transformational, reaching over 13 million people in 45 countries with digital solutions — 13 million people!

This impact is even more impressive considering all that has changed in the world over the course of this five-year partnership. New conflicts emerged in Ukraine and Ethiopia and continued in Syria and Yemen. A global pandemic created devastating health risks for already fragile populations and constrained movement and economies at an unprecedented scale. Natural disasters are escalating, driven by climate change and disproportionately impacting the most vulnerable. This partnership was able to adapt, mostly because it was designed to be flexible and give space to account for our dynamic world. I'm so very grateful to Cisco for their foresight in providing this flexibility. It has allowed Mercy Corps to pivot, evolve and slow down when necessary to assess what was really needed to meet the moment.

This report sums up not only what we've achieved in the past year, but also in the past five, tracing the arc of our work and how it ties to the larger organizational picture. Thank you to Cisco, our external partners and the wide range of internal stakeholders who have not only made this work possible, but have meaningfully engaged to sustain these transformations well beyond the life of the partnership.

Tjada D'Oyen McKenna
Chief Executive Officer, Mercy Corps

Read the Year 4 report here.

Throughout this report, we've included links to the global and local partners who are crucial to our work.

DIGITAL BECOMES FOUNDATIONAL

Over the past five years, Mercy Corps' partnership with Cisco has been part of a larger transformation across the organization. At the heart of that transformation is a new 10-year strategy — our Pathway to Possibility — to unify and guide everything we do: In the most severe crises, we respond rapidly and meet urgent needs while investing early in enhancing resilience. We pivot quickly — working flexibly across humanitarian response, peacebuilding and long-term development approaches to respond to changing circumstances on the ground. Technology, innovation and the work of this partnership create a common thread throughout all programs and form the foundation of our internal systems improvements, ultimately helping us have the greatest impact possible in meeting the most critical needs in the communities where we work.

As the following examples show, in each strategic commitment area, the progress we've made through this partnership is essential to helping us meet our ambitious goals.

The outcomes we seek

Whether we are delivering basic necessities and urgent aid or creating transformative, long-term programs, we are always working toward these four essential outcomes for human well-being.

PEACE AND GOOD GOVERNANCE

People experience less violence, build more cohesive and peaceful communities, and participate meaningfully in inclusive, responsive governance systems.
p. 12

FOOD SECURITY

People are well-nourished at all times, with access to sustainably produced, safe and nutritious food.
p. 20

ECONOMIC OPPORTUNITIES

People grow and sustain their assets and income.
p. 15

WATER SECURITY

People have equitable and sustained access to clean and safe water to meet their everyday needs.
p. 20

The commitments we make

Across our entire organization, in every context we work in and every community we partner with, we approach our work with the following commitments at the core. The Technology for Impact partnership with Cisco has helped power and amplify our capabilities in each of these areas.

EVIDENCE DRIVEN

We use data, evidence and analytics to drive impact, scale what works, and influence others.
p. 8

LOCALLY LED

We are intentional about sharing and ceding power, building meaningful partnerships, and centering communities' voice in all we do.
p. 11

INNOVATIVE AND CREATIVE

We innovate and work with changemakers to test, co-create and scale more effective solutions.
p. 9

SAFE, DIVERSE AND INCLUSIVE

We help create a culture of innovation for all people that protects, enables and elevates diverse community members and groups.
p. 11

CLIMATE SMART

We take bold action to meet the urgency of the climate crisis.
p. 10

Evidence Driven

Building a data-driven culture

Humanitarian and development work involves more than delivering aid — we must also track resources and supplies, confirm who they're going to, evaluate the impact of every program, report back to partner communities and the donors who support us, and apply what we learn to improve future efforts. Monitoring, evaluation and learning (MEL) is an integral part of our work.

In the early days of our partnership, the vast majority of the data we collected about program participants — everything from demographic data to impact surveys — was collected manually and on paper. For example, paper vouchers submitted by participants would frequently pile up, waiting to be reconciled manually, which led to inefficiency and delays in a process prone to human error. Through our collaboration with Cisco, we've modernized and digitized our MEL activities across the agency, freeing up time for our team members and generating real-time insights to inform better decisions, anticipate future challenges and deliver more effective, relevant support to participants when they need it most.

HIGHLIGHT

Over 80%

of team members who participated in training sessions on technologies for data collection, analysis and visualization reported increased confidence in using them.

"Over 20 country programs have increased their use of MEL technologies. This is paying real dividends in our ability to protect participant data, more rapidly assess what is working and what needs improvement in our programs, and share information in a more compelling and transparent way."

—Josh DeWald, Vice President, Program Performance and Quality

Innovative and Creative

Testing, learning and building a new era of humanitarian aid

Testing, prototyping and piloting are standard steps to take in developing and implementing any kind of technology. Failure and lessons learned are normal parts of the process. The humanitarian context presents unique challenges given the remote and complex environments and the ethical dilemmas of applying unproven ideas with vulnerable communities.

Experimenting with tech-based solutions in a range of diverse contexts has been a key part of our partnership with Cisco, and it's been pivotal in how T4D approaches new ideas going forward. We've learned how to effectively implement low-cost pilots through deep partnerships with the technology sector — combining our expertise in the cultural, political and social realities of delivering humanitarian aid with our partners' technological innovations.

As our staff learned how to apply new technologies, they were able to co-design programs and ensure our pilots were more than explorations, but rather pragmatic solutions rooted in communities' needs and challenges. In the process, we've nurtured a culture of innovation across Mercy Corps, helping tie pilots for solutions like solar cookstoves or borehole water sensors to larger programs in order to have greater reach.

HIGHLIGHT

11 pilots

were completed during the partnership, providing program teams with over $350,000 to trial new technology applications.

Climate Smart

Developing a cooking method that's better for people and the planet

For vulnerable communities without electricity, an act as simple as cooking dinner can be hazardous. Fumes from burning wood, coal or kerosene in traditional stoves or open fires can lead to stroke, lung cancer, heart disease and other illnesses, while also polluting the environment. Together with PESITHO, T4D piloted a tech-driven solution to reimagine how families cook in Uganda's Bidi Bidi refugee camp: the solar-powered stove.

The solar stove also has two USB ports and two rechargeable lamps, enabling families to meet cooking needs and also charge phones and study or work after dark. Some participants started generating additional income by offering charging capabilities to others. The innovative model, part of the Field Technology Testing Program, addresses issues of poverty by financing the cookstoves through a cell-phone based, pay-per-use approach, lowering the barriers to entry.

Mercy Corps and PESITHO are now working to improve and scale the pay-as-you-cook program to make solar cooking accessible to more people in Uganda.

HIGHLIGHT

23 solar cookstoves

were deployed in the pilot, leading to distribution of 198 more through the same financing mechanism in a larger program.

"The support provided by Cisco allowed for increased affordability of the solar cookstove for refugees. It provides families with an improved cooking experience, greater safety, and time and financial savings."

—Cecilia Ragazzi, Director, Energy Access

Locally Led

Funding local partners in providing crucial support

At Mercy Corps, we believe the people who best understand a community's needs in a time of crisis are community members themselves. In response to the war in Ukraine, T4D provided technical support, along with additional funding from Mercy Corps, to 12 organizations in Poland that were providing access to information. One of them, the Warsaw-based CultureLab, launched an online platform to provide consistent information on organizations delivering assistance to people who fled Ukraine, as well as a website that compiles educational resources for teachers supporting Ukrainian children. Fundacja Inicjatywa Dom Otwarty (FIDO) used Mercy Corps' funding to support and professionalize their information platform, which was launched to provide practical and reliable information on how to seek refuge in Poland. The website had 13,267 visits from countries including Ukraine, Poland, the United Kingdom, the United States and Russia.

In Romania, four local partners facilitated access to information for over 200 Ukrainian refugees based in the country through grants distributed by Mercy Corps. These activities mainly targeted refugees who remained in Romania and required legal aid, resettlement support or information on health care, as well as country-specific welfare, benefits and child support services.

Our work in the region continues through small grants as we continue to help partners like these coordinate and respond to the changing information landscape.

HIGHLIGHT

Over $255,000

in cash grants from Mercy Corps supported the outreach efforts of 12 information service partners in Poland.

Safe, Diverse and Inclusive

Designing for safety and inclusion

Every technology solution T4D brings to Mercy Corps program teams must account for the safety of participants and inclusion of diverse populations — particularly those who may have been harmed or excluded in the past. Our work begins with a digital ecosystem assessment to understand a given cultural and political context. In Ethiopia, for example, we have observed an increase in social media use, but are concerned about how that behavior is impacting women and girls. Limited access and marginalization could undermine their agency online and in the public sphere, while also posing risks to their engagement in advocacy and peacebuilding in their communities. We developed the Gender and Conflict-Sensitive Approaches to Peacebuilding program (GCAP) to address this issue. At the core of the program: training for young women and men on peace promotion and dispute resolution online and offline, including information about how social media can be used to incite conflict and gender-based violence.

HIGHLIGHT

40 young people

across three remote and conflict-prone areas of Ethiopia were trained in peace promotion and dispute resolution in response to social media drivers of conflict and gender-based violence.

FROM INFORMATION DISSEMINATION TO PEACEBUILDING

Our partnership with Cisco built on earlier collaborations between our organizations, including initiatives in response to the European refugee crisis. With support from Cisco, we built an app and website to provide refugees and migrants with information they need to make critical decisions far from home. As we learned more about the realities refugees and migrants face, we realized that providing accessible information is just one piece of a complex digital landscape, which also includes rumors and misinformation that can impact already vulnerable groups. Since 2020, we've made it a priority to consider how social media and dangerous online content affect our online and offline programming.

HIGHLIGHTS

❯ 787,773 people engaged with social media messages of unity and trust in the democratic process from 150 youth influencers leading up to Kenya's August 2022 elections.

❯ Our Digital Peacebuilding framework was presented at six workshops with other non-governmental organizations (NGOs) and policy stakeholders concerned about the weaponization of social media in conflict settings.

❯ 67% of young people who participated in digital peacebuilding programs in Iraq reported the social initiatives they designed were effective at addressing mis- and disinformation in their communities.

Building a reputation for digital peacebuilding

How our Digital Communities work informs long-term efforts to strengthen peace.

One of the exciting developments we've seen over the course of our partnership is the cross-pollination between programs and focus areas. For example, as Mercy Corps learned more about how to plan for, develop, and implement digital and informational tools for community engagement, natural linkages have emerged with our governance and peacebuilding sectors. Specifically, the digital ecosystem analysis that is core to our Digital Communities initiative shows promise in understanding how social media is being weaponized in ways that lead to physical conflict and violence, and what can be done to address that.

We're now applying a digital lens to programming across our peacebuilding work both at the strategic and tactical levels. In 2019, we piloted Yafe, a mobile app designed to help communities in Nigeria prevent the spread of hate speech online. The app enabled community leaders to identify and intercept hate speech and rumors that often could trigger violent incidents in their communities. Participants identified the content they found most incendiary and then used digital tools to quickly verify truthful content with each other and work to pacify the situation with their respective communities.

We also initiated the Gaskiya project in Nigeria, a pilot program to track and respond to rumors with factual information during the height of the COVID pandemic, when online misinformation was rampant. Gaskiya incorporated SMS text messaging and interactive voice response technology to collect, translate and provide feedback based on rumors circulating both online and offline. The project helped our teams better understand how to develop behavior-change communications that directly responded to misinformation about the virus.

In Iraq, our peacebuilding program team began to expand our understanding of online mis- and disinformation. Social media in Iraq, like everywhere else, amplifies and deepens intergroup tension, enables the spread of hate speech (which further marginalizes communities), and breeds echo chambers. We worked with a group of 81 young people on a project called Iraqi Youth Against Disinformation (IYAD), in which they chose topics to analyze based on Mercy Corps' Digital Peacebuilding framework and developed responses to encourage rejecting extremism and increasing tolerance. The entire project was designed, developed and implemented by young people, and 67% of program participants (70% male, 64% female) reported that the initiatives were effective at addressing mis- and disinformation in their communities.

The evolution of these pilots and projects has informed the development of our Digital Peacebuilding approach, which we have applied in five countries so far, including the GCAP (p. 11) program in Ethiopia. The approach has also been used to adapt early warning programs in Kenya and Nigeria, where our teams are collaborating with local partners to monitor, analyze and respond to social media messages that could incite violence, identifying appropriate responses to not just counter messages online, but also address the comprehensive harms in offline spaces.

> "T4D's contribution to Mercy Corps' peacebuilding portfolio has completely changed how we approach our work. For the first time in my 15 years working on peace and governance programs, we now consider how online activities drive offline tensions, and where possible, try to leverage online tools to mitigate conflict drivers."
>
> **—Sanjay Gurung, *Vice President, Technical Leadership***

Practical guidance on social media and conflict

Violent conflict is on the rise around the world, forcing record numbers of people to flee their homes, and increasingly, social media is fanning the flames. Political actors use social media campaigns to spread disinformation, echo chambers normalize hate speech against vulnerable groups, and radicalized narratives circulate in an instant. At the same time, social media can be a critical tool for social good by serving as a forum for awareness raising, organizing and mobilizing communities, and extending access to commerce, education and public health information.

To help illuminate the challenges posed by social media and inform creative, constructive responses, the Peace & Conflict and T4D teams have developed

a practical guide titled Peace and Resilience in Social Media (PRISM), which focuses on three key steps:

- Recognizing the main types of social media harm

- Assessing factors of both risk and resilience in contexts where social media is driving conflict

- Designing practical and holistic responses to comprehensively address the risk and resilience factors

Mercy Corps teams are applying the PRISM approach to identify how other programs can better assess and respond to the weaponization of social media, mitigating risks and impact as well as building resilience in the communities in which we work.

Promoting peace and stability through trusted messengers on social media

Recent elections around the world have revealed just how effective digital tools can be in spreading hate speech, mis- and disinformation, and threats to peace. Ideas that spark and spread online can quickly lead to violence and political instability and undermine trust in the democratic process. The immediacy and air of authenticity of social media messages play a huge role in their ability to influence people. We analyze the risks and factors contributing to this harm, engaging people in communities where we work to promote tolerance and peace.

In partnership with Kenya-based AIfluence, Africa's first AI-powered influencer marketing platform, Mercy Corps is shining a spotlight on how social media can be harnessed to champion peace and conflict prevention. By engaging micro-influencers — everyday people who share their own messages in their own way — AIfluence builds campaigns that reach people with positive messages and real information from sources they trust. This locally led, community-based approach results in greater impact than messages coming from the government itself, helping to depolarize online discourse and set the stage for more peaceful elections. For example, across three counties, there was an 8% increase in the percentage of people saying they planned to vote and a 10% increase in people's confidence that the election committee was prepared to administer fair, credible and peaceful elections.

DIGITIZING, AUTOMATING AND HARMONIZING DISTRIBUTIONS

Economic opportunity includes a wide range of activities, from market systems development to livelihoods training. In places where markets are functioning — whether they are emergency or longer-term development contexts — cash and voucher assistance enables people to make decisions about what they need most. It can be a flexible and efficient way to stabilize or stimulate local markets while helping to meet a variety of program goals. For example, a program could provide vouchers for seeds or veterinary services, helping to meet food security goals. Or a program could provide cash in exchange for work, helping to build skills or fill a need in employment markets. Given the wide range of contexts and approaches where cash is used, it's become increasingly important to have a range of options for teams to choose from.

HIGHLIGHTS

❯ From 2019 to 2021, the number of cash programs using electronic distribution methods (e-voucher, bank transfers or mobile money) doubled from 22 to 44.

❯ Mercy Corps led a cash consortium of four NGO partners in the use of blockchain technology to register participants in northeast Syria. Working together, we found that 6.5% of registrations were duplicates, proving this technology can increase reach.

❯ Digital data processing from more than 2,500 community-based organizations, businesses and government partners is automatically cleaned and transformed into performance dashboards for a $30 million complex program in Ethiopia.

First things first: Switching manual systems to digital

Lessons learned have helped focus our attention on fundamental changes that create new possibilities for the future.

In the first two years of our partnership, Mercy Corps built an interoperable layer designed to link multiple registration, verification and payment platforms. We envisioned a seamless system that included biometrics, participant registration and electronic payments data all in one place. In 2021, however, a number of high-profile data breaches led some in the humanitarian field to back away from biometrics, as donors, partners and community members grew skeptical of its security. Around the same time, our primary partners — CommCare (for participant registration) and GeniusTags (for electronic vouchers) — built a direct integration between their platforms, but adoption proved more challenging than anticipated because the integration required updating variables for each use case.

Being able to adopt interoperable systems requires having digitized workflows to begin with — something many teams were wrestling with. T4D decided to modify our digital cash and voucher work to focus on helping program teams make the switch to digital as a first step, while aligning cash programming with monitoring, evaluation and learning tech capabilities. This begins with identifying the right platforms for each context, training team members and supporting them with guidance.

We're already seeing impact in the form of improved accuracy in targeting support to the most vulnerable participants, better efficiency in delivering cash and vouchers so people can buy the supplies they need, and a more solid foundation for interoperability in the future.

The work has also revealed new possibilities for us to explore.

For example, the team in northeast Syria piloted Mercy Corps' first use of non-crypto blockchain to remove duplicate participants across four different NGOs providing cash assistance. This allowed each organization to use its own preferred registration software while communicating de-identified participant lists securely and transparently with one another. The team in Nigeria is now applying the same approach.

In Guatemala, the program team piloted a digital cash program among rural and climate-affected agricultural communities designed to assess how digital cash programs can best support people, particularly at key times in the agricultural calendar.

In Ukraine, where Mercy Corps had not worked prior to 2022, we recognized that our lack of experience with the financial service providers and regulatory environment in the area could affect how quickly we could deliver urgently needed cash assistance. To get people the support they needed as soon as possible, we turned to rapidly deployable cash options such as prepaid cards, which will now be included in our suite of cash programming tools.

Although our work followed a path different from what we anticipated, we've achieved the same goals: more efficient and accurate participant registration and selection, analysis of impact, and adaptation to changing contexts. Teams that moved from paper to digital workflows are now collecting, analyzing and sharing data in ways they were previously unable to, and teams that have digitized their data collection are now automating their analyses, leading to better-informed decisions and improved support for participants.

> "The future of cash is digital. The question for us is, how can we design our cash programs to put people's needs first, and ensure digital financial systems are inclusive and equitable?"
>
> **—Kristin Smart, Director, Cash and Voucher Assistance**

Scaling up from emergency cash assistance to long-term protection

Providing cash to help meet urgent needs in times of crisis or basic needs for the extreme poor is an efficient, effective method of humanitarian aid, creating immediate benefits to individuals and local economies. But the impacts of crises and poverty tend to extend for years, well after funding for Mercy Corps' work has ended. Our cash team has been interested in how assistance could tie to government-led social protection and how technology could alleviate the administrative burden of sharing registration lists or coordinating vulnerability criteria.

In three large cash programs, each where Mercy Corps leads a consortium of other NGOs, we surveyed the different opportunities and challenges for coordinating with national governments. We found that effectively scaling cash caseloads by transitioning to state programs requires a combination of humanitarian cooperation, effective and secure use of digital tools, and early buy-in from government actors. In Colombia and Gaza, for example, T4D has supported consortium-wide digital harmonization, but weak or inconsistent governance coupled with mistrust from vulnerable communities makes transitioning from impartial humanitarian actors to state-led social protection challenging.

Helping girls build skills and brighter futures

The Girls Improving Resilience through Livelihoods and Health program (GIRL-H) is designed to connect girls in Kenya, Nigeria and Uganda with training and access that can lead to economic opportunities in the future. The program empowers girls with training in life skills, health information, basic numeracy and literacy, and financial literacy while connecting them to opportunities for formal education, income and civic engagement.

T4D has supported the program by helping the team digitize and tailor its curriculum to reach more people. Key messages from the curriculum are curated, distributed and reinforced using interactive voice response or interactive text messages that can be accessed using a basic feature phone. We've also helped establish agreements with mobile providers to streamline the process for program teams to work with them and get their content out. Ultimately, the program's goal is to reach 26,000 young people in each of the three countries with over 60 key messages.

OUR JOURNEY TOWARD DIGITAL DATA COLLECTION AND ANALYSIS

INTERNAL DATA IMPROVEMENTS

Demand for case management in cash programs and data visualization across programs highlights agencywide problems with data technology procurement, setup and management. This, combined with a 2020 survey on data collection practices, reveals a wide range of tools in use and the need for a consolidated suite of preferred platforms, with centralized governance and training for team members.
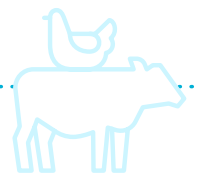
Before the partnership, Mercy Corps' data is frequently collected on paper, disjointed and almost impossible to aggregate by country — much less by region, sector portfolio or global impact. Data that is collected digitally is spread across multiple systems, from individual computers to various software platforms that aren't centrally managed. Not only does this make meaningful analysis difficult, but it also presents a significant data security risk.

HOW DIGITIZING DATA MAKES A DIFFERENCE

Poncianah, an animal health advisor in Uganda, aims to vaccinate 1 million sheep and goats against peste des petits ruminants (PPR), a highly infectious viral disease that can affect 90% of a herd.

With Mercy Corps' master service agreements with GeniusTags for vouchers and CommCare for registration, along with training, Poncianah can set up a data system in weeks instead of spending months evaluating options and struggling with technical setup.

The team registers farmers and their herd sizes in the GeniusTags system and gives them cards to redeem for vaccination. Poncianah can use the registration numbers to plan vaccine distribution to local hubs.

EXTERNAL DATA SCIENCE

The data-driven decision making team uses external conflict data from Syria to track violent incidents and coordinate humanitarian distributions at the safest time of day. But when we try to apply a similar analysis to program data, we face too many challenges in organizing the information to draw meaningful insights.

With additional resources, the T4D team expands food basket monitoring in Syria into a model that prompts interest in data science and analytics infrastructure. Other teams are particularly interested in contextual analysis of conflict and emergency settings, where it's often difficult to understand driving factors and design the most effective interventions.
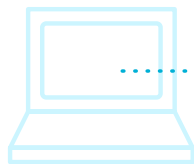
Recommendations from the 2020 survey prompt the selection of a global monitoring, evaluation and learning (MEL) tech suite along with guidance in how to use it. Initially, 35 team members from 20 countries are trained on eight technologies. Some teams also receive "jumpstart" grants of up to $20,000 to upgrade subscriptions, train others or conduct trainings in additional languages.

A master services agreement with CommCare streamlines procurement and puts agency weight behind a single case management software. Mercy Corps also enters into master service agreements with Nagis and GeniusTags for electronic vouchers.

The MEL tech team can automate surveys before and after distributions of food, supplies (e.g., hygiene or winterization kits), or cash, using harmonized forms in programs where the data collection process is consistent.

With consolidated tools and privacy impact assessments conducted on the eight MEL technologies, Mercy Corps rolls out data security guidance and includes data protection in training modules.

Through the GeniusTags system, community animal health workers redeem the cards as they vaccinate animals and receive stipends based on the number administered. Data is synced online, which is particularly useful for programs in remote areas.

Poncianah can easily track the vaccine rollout (e.g., matching animals registered with vaccinations received) using case management in CommCare, which is directly linked to real-time visualizations in Power BI.

More cash programs implement automated MEL systems and MEL tech. Voucher master service agreements make cash programming more effective, with significant collaboration across teams.

If necessary, GeniusTags would work with Poncianah's team to adapt the vouchers to their needs. The fact that only relevant data (number of animals per farmer) is stored in the system increases data security and confidence.

Building on the foundation established in cash programming, automated MEL systems are now being expanded to food security, emergency response, and peace and governance. Eight country teams are using automated MEL for large cash and complex programs, so all future data will be standardized and usable for agency-level analyses. Mercy Corps is also beginning to merge external and internal data sources using parallel efforts to automate and standardize data inputs about food security.

In January 2023, the T4D team delivers the Rapid Institutional Crisis Response platform, which standardizes and consolidates key secondary data sources, making them more readily available for use in reporting and analytics. This reduces the burden on field teams, freeing up our experts to work on their analytical reporting.

Moving forward, we envision an ongoing transformation in which internal program data will be collected digitally and automatically stored, transformed and visualized. Standardized indicators will be aggregated for portfolio-level analysis to improve programming. Internal and external data sources will exist in secure cloud locations and can be integrated to generate on-the-ground insights and anticipate program impacts.

ENSURING ACCESS TO NUTRITIOUS FOOD AND CLEAN WATER

Because food and water security is both essential and complex, it requires a range of interventions to ensure effectiveness and long-term sustainability. Delivering emergency water on trucks, improving large-scale infrastructure within communities and empowering families with their own kitchen gardens to grow food in conflict zones are a few of the ways we can help. But there's more to be done. Humanitarian response should also consider behavior change leading to choosing more nutritious foods or conserving water, new agricultural techniques to adapt to the impacts of climate change, and reimagining community structures to enable more equitable distribution of food and water. From sensors that monitor water levels to flood warning systems to digital information sharing, technology can help communities not only better understand the causes of food and water scarcity, but also develop strategies to address these challenges today and adapt for the future.

HIGHLIGHTS

❯ 15 borehole sensors were installed in Samburu County, Kenya, providing remote water-quality monitoring for 15,590 people.

❯ In Guatemala, 80 agricultural families affected by tropical storms who were not receiving other assistance received three monthly cash payments.

❯ The Global Food Crisis Hub automatically pulls, processes and visualizes data from 17 different external data sources, enabling users to draw insights from environmental data, trade and labor statistics, and more.

Acting sooner to protect food sources with advanced analytics

Digital tools help anticipate and inform action against threats to the food supply.

The Global Food Crisis Hub was developed in response to massive disruptions to the global food supply that have put already fragile communities at even greater risk. The war in Ukraine, other ongoing conflicts, climate disasters like drought and flooding, and other extreme weather events can impact people's ability to grow, raise and access food quickly, leaving local communities and humanitarian organizations scrambling to fill the gap.

By gathering and collating contextual data from three key areas — enviro climatic, livestock and trade/labor — the Global Food Crisis Hub provides contextual information and timely insights to inform future planning. Data dashboards bring different streams of information together, helping organizations anticipate how environmental or social shocks will impact food security and agriculture in a given context, and then prepare for these impacts in advance. The hub was piloted in the Horn of Africa, covering Kenya, Somalia and Ethiopia. It also serves as the hosting platform for the Livestock Systems Model simulator for Somalia, developed to help anticipate and inform action to address shocks to livestock systems and prevent the worst effects of recurrent crises.

Tending to livestock is crucial to the livelihoods of nearly 20 million people in the Horn of Africa and is one of the most important sectors of the region's economy. Threat multipliers of climate change, conflict and animal disease have far-reaching impacts that are
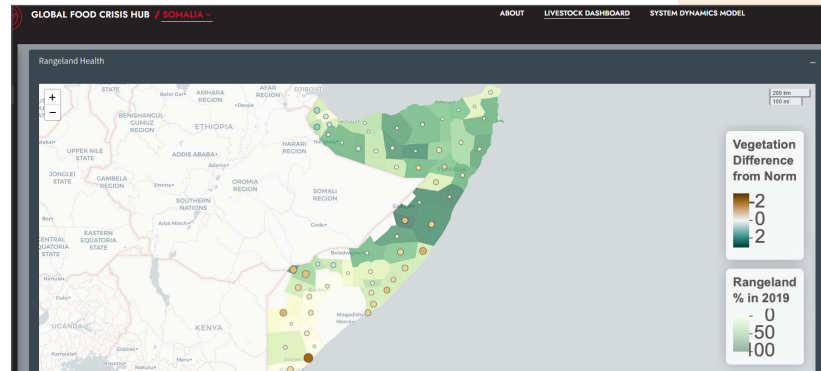
most prominently felt by households who rely on this sector to survive and maintain food security.

In a first-of-its-kind analysis, the interactive Livestock Systems Model allows for a deep exploration of cause-and-effect feedback loops between households and the systems governing livestock in agro-pastoral regions of Somalia, ultimately leading to better decisions and resourcing for timely, effective and resilience-centered response to shocks such as drought. The web-based dashboard allows users to run different scenarios based on shock factors or various policy interventions proposed by Mercy Corps to simulate their potential effects on the system.

The model continues to unlock new insights to mitigate the shocks to livelihoods and household food security, demonstrating the effectiveness of combining qualitative expertise and knowledge with quantitative metrics. With deteriorating conditions throughout the Horn, a tool like this gives the sector a better understanding of what is happening so that policy options can be as targeted as possible and have a meaningful impact.

"Visualizing the complexity involved in livestock as a sector is useful in exposing the areas that governments, NGOs and other actors need to look into."

— **Lugard Ogaro, Director of Programs, Mercy Corps Somalia**

Tech-driven behavior change for better health

In Kyrgyzstan and Uzbekistan, Mercy Corps launched school nutrition programs to address nutrient deficiencies caused by short-term hunger and a lack of variety in children's diets. The programs go beyond food distributions, with improvements to water infrastructure for sanitation, training for cooks and teachers, and a behavior-change campaign in partnership with local health care workers.

T4D is supporting the local teams with a technology landscape assessment to inform online courses for 800 cooks and 800 school officials. Course curriculum will cover improved nutrition and hygiene, as well as best practices for storing commodities. We're also working with 200 health care workers and 2,000 community members to educate students and parents about childhood nutrition online and offline.

Digital tools make it possible to extend programming beyond initial training sessions and other time- and place-based activities, helping to reinforce new behaviors and create resources community members can access long term.

Combining local knowledge with microsensor data to enhance water security

In northern Kenya's Samburu County, 60% of the population lacks access to adequate water sources. Prolonged drought cycles, the impact of climate change and a growing population are creating a perfect storm of water scarcity with potentially dire consequences. To help, Mercy Corps is augmenting local knowledge of the landscape and weather patterns with technology to monitor how local water systems are functioning in real time and provide early warnings to inform decision making when problems occur.

The technology, designed by Virridy, consists of microsensors at 15 borehole sites — deep wells that use high-efficiency pumps to access naturally occurring water underground. The information from the microsensors is particularly powerful when combined with local understanding of precipitation, recharge, water withdrawals, changes in aquifer storage and surface water outflows. Together, communal knowledge and real-time data pave the way for faster, better-informed decisions around preventive maintenance and local resource planning. Over the next three years, the project will continue to enhance water security by helping local communities professionalize water maintenance and repair.

TRANSFORMING OPERATIONS WITH UPGRADED EQUIPMENT AND NEW PRACTICES

Before the partnership, an assessment from Mercy Corps' IT team revealed that nearly one-third of Mercy Corps' offices had "unacceptable" connectivity, which created delays or even prevented team members from downloading files, sending emails or participating in calls. We knew addressing this issue had the transformative potential to speed up operations, which in turn would improve the effectiveness of our programs and help us get aid to participants faster.

The partnership generously included nearly $3.4 million for hardware and licensing for Cisco Meraki network equipment in Mercy Corps' offices — top-of-the-line equipment to replace ad hoc networking equipment often sourced in-country without centralized administration. Thanks to the Meraki technology, IT team members at Mercy Corps headquarters can prioritize issues and block malware from a central location. Now, only 6% of our offices have unacceptable connectivity levels — primarily due to internet service provision and lack of network infrastructure in remote locations.

HIGHLIGHT

❭ 894 Cisco Meraki networking systems have been installed in 188 offices in 34 countries.

"Before the engagement with Cisco, our country offices all had different technology solutions from different vendors. That created a lot of challenges, because we did not have visibility into the systems, and it cost time and resources to manage it."

—Zerom Tesfay, Director, Global IT Services

Getting the right tech in place early to speed disaster response

When a disaster strikes, the chaos that ensues can get in the way of providing crucial emergency support to people in life-threatening circumstances. Communications technology is key to organizing aid efforts. That's why in July 2021, Mercy Corps and Cisco worked together to establish networking equipment in Indonesia — a country that has faced numerous natural disasters — so that it would be accessible in a time of crisis.

In December 2021, when Mt. Semeru erupted, damaging thousands of homes and killing nearly 70 people, Mercy Corps was able to rapidly set up an emergency office for first-response aid workers. With connectivity emergency response kits already in place, thanks to Cisco's partnership, it was faster and easier to get equipment to the most-affected areas and set up our office for aid operations in a matter of days vs weeks. In November 2022, when a 5.6 magnitude earthquake struck West Java, the Indonesia response team was able to move the equipment to support our response in Cianjur.

Safeguarding digital communications and data

In addition to improving our hardware, one initiative of the partnership also focused on improving our communication security and data protection. This began with an assessment of our risks and vulnerabilities, which informed a subsequent series of policies, trainings and socialization activities, many of which have also been shared externally with partners and peers. The Data Protection and Privacy guides that resulted cover topics like understanding sensitive data, conducting privacy impact assessments, de-identifying data, encrypting a file and file-sharing best practices and are publicly available under open license in English, French, Spanish, Arabic, Russian and Ukrainian.

Four months after going live, the guides had been downloaded more than 2,000 times and video tutorials had been viewed almost 3,000 times. They have played a key role in Mercy Corps' MEL tech training and continue to be incorporated into country office standard operating procedures.

THANK YOU

As we conclude the Technology for Impact partnership, it has been profound to pause and reflect on the change it has inspired across Mercy Corps and beyond. The seven original initiatives have sparked lasting transformation, not only in the work each set out to accomplish, but in how the cumulative efforts changed how Mercy Corps uses technology writ large. In the months and years to come, Mercy Corps and Cisco will continue to explore new ways to leverage the power of technology to improve the delivery of humanitarian and development assistance.

In the spring of 2022, we partnered on a two-part program using climate innovations to support vulnerable communities on the front lines of the climate crisis. Part one of this is the Adaptation Services for Action and Learning program in the drylands of northern Kenya, where an unprecedented drought exacerbated by climate change is threatening the lives and livelihoods of pastoralist communities who depend on grasslands for their livestock herds. Mercy Corps is bringing these communities and county governments together to use GIS analyses for decisions about natural resource management plans. The second half of this funding is part of our Climate Venture Platform, which supports investments and technical assistance for early-stage climate adaptation and resilience ventures in sub-Saharan Africa, Latin America and Southeast Asia.

Over the course of five years, Technology for Impact has catalyzed Mercy Corps' use of technology, and with partnership activities sustained going forward, we can apply our learnings as we continue to work together to use technology tools to address some of the most challenging issues facing our sector.

T4D TEAM

From left to right, Adrienne Brooks, Alicia Morrison, Aaron Eubank, Carolyn Florey, Alexa Schmidt, Harriet Akohpossi and Kimberly Adams.

Carolyn Florey
Technology for Development Senior Director

Alexa Schmidt
Technology for Development Director

Aaron Eubank
Data for Impact Advisor

Adrienne Brooks
Technology for Development Senior Advisor

Alicia Morrison
Data for Impact Advisor

Amanda Borquaye
Reporting and Communications Officer

Farah Haddad
Program Specialist

Hanna Camp
Technology for Development Senior Advisor

Harriet Ahokpossi
Digital Information Services Advisor

Kathryn Hofeldt
Finance Manager

Kimberly Adams
Technology for Development Senior Advisor

"I have loved seeing the programs evolve over the years — from the earliest proof of concepts and pilots, to some initiatives being replicated across other regions and scaled across the organization. The benefit of a multi-year partnership is that it has afforded us the time to test solutions, to pivot and adapt when things don't go as planned, and to scale initiatives that gained traction and had an impact."

—Erin Connor, Director of Crisis Response, Cisco

MERCY CORPS

CISCO